

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

As rescanning documents *will not* correct images,
please do not report the images to the
Image Problem Mailbox.

FEDERAL REPUBLIC
OF GERMANY



GERMAN PATENT
OFFICE

12. UNEXAMINED PATENT APPLICATION

11. DE 39 35 818 A1

51. Int. Cl.
A 61 M 3/02

21. Case No.: P 39 35 818.8
22. Application date: October 27, 1989
43. Date application published: May 2, 1991

71. Applicant: Beher, Wolfgang, Dr.; 7750 Konstanz, DE	72. Inventor: Same as applicant
---	--

54. Apparatus for washing infected ulcera cruris (ulcers of the lower leg) that are difficult to heal and other bodily wounds

The invention teaches that the apparatus makes the care and treatment of such wounds significantly easier by making it possible to clean and treat the wound directly in the patient's bed. If the patient were suffering from soreness or Intertrigo, for example, the use of the invention would make it unnecessary to perform the difficult operation of moving the patient from a bed to a bathroom. In the field of outpatient therapy, for example, as administered by general practitioners, ulcera cruris, abscess cavities, and even acne and other dirty wounds can be easily cleaned under pressure and without the effects of spraying and splashing. Postoperatively, there may also be situations in which this apparatus can be used to wash out body cavities that contain bacteria and that are inaccessible with the use of other cleaning therapies. The apparatus can also be used for acne therapy.

The invention also teaches that for circulatory ailments such as smoker's leg (endangitis obliterans of the leg), diabetic circulatory ailments or gangrene, for example, an externally controlled application of nutritive substances becomes possible, and thus the leg with poor circulation can be saved or temporarily stabilized. Oxygen can also be supplied under pressure through the cuff to be created, which would contribute to improved circulation. The invention teaches the capability of cleaning the blood with appropriate osmotic substances. The result is a broad new therapeutic field, the range of which cannot yet be estimated in all its aspects and effects.

Description

This invention relates to a cleaning apparatus for wounds as described in the introduction to Claim 1.

Field of the invention

The apparatus claimed by the invention is intended on one hand to make it possible to apply appropriate solutions directly to the diseased area of the patient's skin, e.g. Rivanol solutions, physiological NaCl solutions etc. An additional object of the invention is to make it possible to perform the cleaning therapy for bedridden patients while they are still in bed, without the need for the complex and difficult operation of moving them into the bathroom. The seal of the cap makes it practical to clean the wound without getting the bed wet.

Prior art

In the field of medicine there are a number of suction devices and rinsing devices. These devices are most often used to suck out bronchial secretions. Rinsing devices with as Jetwash are also used in the field of dentistry.

A combination of the two devices would have the advantage that they can be used for local applications of substances in liquid form, and the liquid can also be removed by suction. The invention achieves this object by the use of a transparent, soft, adaptable plastic cap which has a seal on the edge, whereby the contours of the cap fit the anatomy of the surface of the body part to be treated. A decisive factor is thereby a relatively complete sealing mechanism, although small quantities of the rinsing fluid can be allowed to reach the base. The feed line of the end of the hose that contains the rinsing fluid is fastened in the head of the cap. The hose ends in a small conventional shower nozzle which can be rotated, and in which the intensity of the pressure can be varied. The intensity of the pressure is varied by a rotary knob on the apparatus. The contaminated substrate is removed through an extraction orifice which is attached to the base of the cap. A hose feed runs from this extraction orifice to the apparatus which

sucks out the contaminated rinsing fluid and transports it to a vessel provided for that purpose. The invention teaches that this object is achieved by the characterizing features disclosed in Claim 1. The cap is characterized by two orifices for straps, by means of which the cap can be easily fastened to the lower leg, for example, by means of an elastic band.

The additional configuration of the invention includes a plurality of plastic parts that fit the shape of the surface of the body so that, for example, in the area of the patient's hand, finger caps are constructed which make it possible to clean the wound. These plastic parts are based on the same constructive characteristics as described above and can be connected to the base unit. There is a feed orifice and an extraction orifice, while the seal is circular, whereby, for example, the seal can be provided in the form of a cuff or similar device.

Likewise, the invention can be used for therapy, for example, by flooding the plastic part with nutritive substances if, for example, the patient in question suffers from smoker's leg or a diabetic deficiency. The same is true for a hemodialysis in the event of renal insufficiency.

Claim

Rinsing device for cleaning infected wounds and ulcera cruris that are difficult to heal. The apparatus can also be used for therapy on functionally impaired extremities, although additional tests must be performed to determine whether the apparatus is also suitable for hemodialysis.

The device is characterized by the fact that a compression-suction pump or two separate pump-suction units transport rinsing fluid through a hose system to a plastic cap, whereby the one pump delivers the rinsing fluid and the other pump extracts it by sucking out the contaminated rinsing fluid. In addition to the cap that can be applied to the patient's body, additional system elements must be developed that can be adapted to the organic and anatomical situation. For example, a rinsing cap of the type claimed by the invention for the fingers and the hand, or for the feet and legs, can be developed,

4

DE 39 35 818 A1

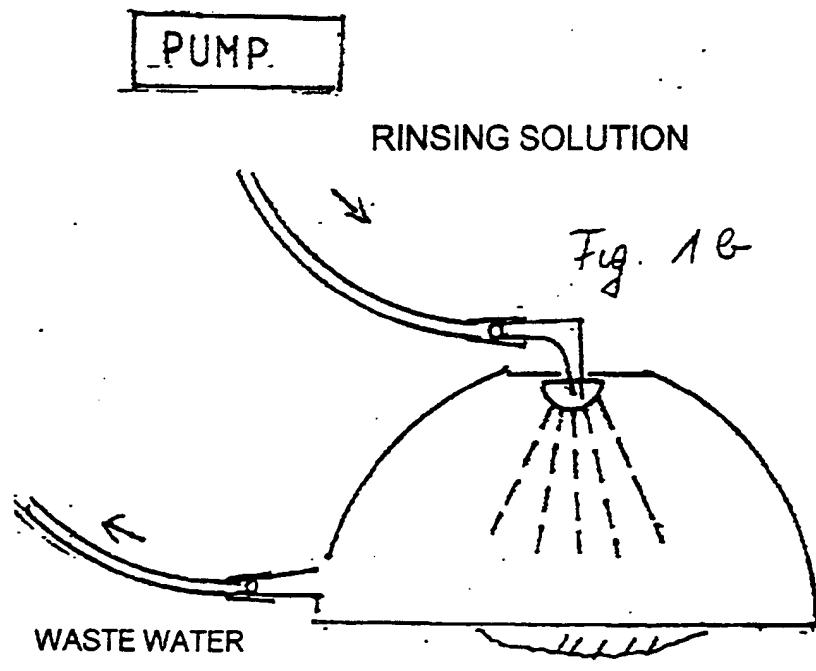
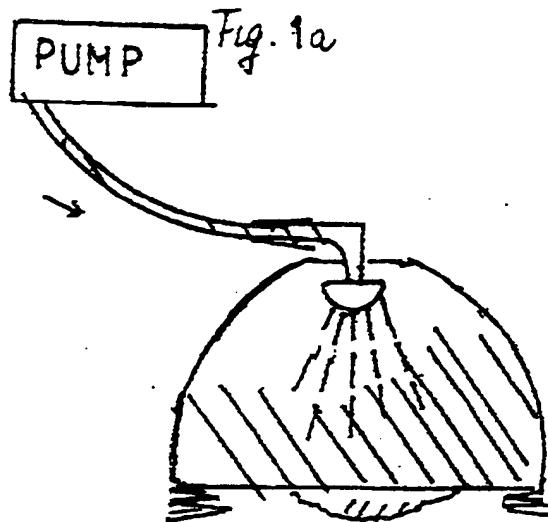
as well as for entire extremities or the entire body. The adapters are provided with mountings for easy and correct attachment with the compression-suction pump.

Accompanied by 2 pages of drawings

DRAWINGS PAGE 1

Number:
Int. CL.
Date published:

DE 39 35 818 A1
A 61 M 3/02
May 2, 1991



6

DE 39 35 818 A1

DRAWINGS PAGE 2

Number:
Int. Cl.
Date published:

DE 39 35 818 A1
A 61 M 3/02
May 2, 1991

Fig. 2

